

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A silk-fiber-based matrix composition comprising sericin-extracted silkworm fibroin fibers, said fibers being biocompatible and helically organized into fiber bundles, wherein said matrix supports ingrowth of cells around said fibroin fibers and is biodegradable.
2. (canceled)
3. (currently amended) The matrix as recited in claim 1, wherein the silk-fiber based matrix comprises fibroin fibers obtained from *Bombyx mori* silkworm fibers.
4. (currently amended) The matrix as recited in claim 1, wherein the matrix comprises a composite of silk the sericin-extracted fibroin fibers and collagen fibers.
5. (currently amended) The matrix as recited in claim 1, wherein the matrix comprises a composite of the sericin-extracted fibroin fibers ~~silk fibroin fibers~~ and one or more silk foams, films, meshes or sponges.
6. (currently amended) The matrix as recited in claim 1, wherein the matrix comprises a composite of the sericin-extracted fibroin fibers ~~silk~~ and one or more degradable polymers selected from group consisting of Collagens, Polylactic acid or its copolymers, Polyglycolic acid or its copolymers, Polyanhydrides, Elastin, Glycosamino glycans, and Polysaccharides.
7. (canceled)
8. (original) The matrix as recited in claim 1, further comprising pluripotent or fibroblast cells seeded on said matrix.
9. (previously presented) The matrix as recited in claim 8, wherein said pluripotent or fibroblast cells are autologous.
10. (previously presented) The matrix as recited in claim 9, wherein said pluripotent or fibroblast cells are allogeneic.
11. (original) The matrix as recited in claim 9, wherein said pluripotent cells are selected from the group consisting of bone marrow stromal cells and adult or embryonic stem cells.

12. (original) The matrix as recited in claim 9, wherein said fibroblast cells are mature human ACL fibroblast cells.
13. (original) The matrix as recited in claim 9, wherein said pluripotent or fibroblast cells proliferate and differentiate on said matrix to form said predetermined ligament or tendon.
14. (original) The matrix as recited in claim 9, further comprising a surface modification agent which enhances proliferation and differentiation of said pluripotent or fibroblast cells on said matrix.
15. (previously presented) The matrix as recited in claim 1, wherein said matrix comprises a shape of a ligament or tendon selected from the group consisting of anterior cruciate ligament, posterior cruciate ligament, rotator cuff tendon, medial collateral ligament of the elbow, flexor tendon of the hand, ligaments and tendons of the temporomandibular joint, and lateral ligament of the ankle.
16. (previously presented) The matrix as recited in claim 15, wherein said ligament is an anterior cruciate ligament.
17. -174. (canceled)
175. (currently amended) A silk-fiber-based matrix comprising helically organized sericin-extracted biodegradable silkworm silk fibers and bone marrow stromal cells attached thereto.
176. (currently amended) A composition consisting essentially of sericin-extracted silk silkworm fibroin fibers, said fibers being biodegradable and organized into a matrix being helically organized into fiber bundles and comprising an ultimate tensile strength of greater than 2000N and a linear stiffness of between 100-600N/mm, wherein sericin is completely removed from said fiber.
177. (previously presented) The matrix of claim 14, wherein said surface modification comprises an arginine-glycine-aspartate peptide.
178. (previously presented) The matrix of claim 1, wherein said helically-organized fibers comprise a cylindrical shape.
179. (previously presented) The matrix of claim 1, wherein said matrix comprises an ultimate tensile strength of greater than 2000N and a linear stiffness of between 100-600N/mm.